AMENDMENTS

In the Claims

Prior to entry of the current amendments, please enter the amendments as set forth in the response to the Final Office Action dated April 8, 2004. The following are further amendments to the claims.

Please rejoin claims 5-8 and 13, which claims are indicated below as "withdrawn".

Please add new claim 24.

1. (**Currently Amended**) A method for identifying a ligand for a G protein-coupled receptor (GPCR), the method comprising:

contacting a G protein-coupled receptor (GPCR) with a candidate agent, the GPCR **comprising** ~~having~~ a conformationally sensitive detectable probe positioned on or within a conformationally sensitive third intracellular domain of the GPCR with the proviso that ~~the probe is not~~ **no probe is** positioned in a transmembrane domain; and

detecting a detectable signal of the conformationally sensitive detectable probe;

wherein detection of a change in the detectable signal in the presence of the candidate agent as compared to the absence of the candidate agent indicates the candidate agent is a ligand for the GPCR.

2. (**Previously Presented**) The method of claim 1, wherein the conformationally sensitive intracellular domain is a third intracellular domain of the GPCR and wherein the conformationally sensitive detectable probe is a detectable label attached to one or more amino acid residues within the third intracellular domain of the GPCR so that a conformational change in the GPCR in the presence of the candidate agent causes a change in the detectable signal of the detectable label.

3. (**Original**) The method of claim 2, wherein the detectable label is a fluorescent probe.

4. (**Original**) The method of claim 2, wherein the detectable label is attached to an amino acid residue corresponding to amino acid residue at position 265 in a β2-adrenergic receptor.

5. (**Withdrawn**) (**Previously Presented**) The method of claim 1, wherein the conformationally sensitive detectable probe is a protease cleavage site within the GPCR so that a conformational change in the GPCR changes the accessibility of the protease cleavage site to protease cleavage, and the detectable signal is a protease cleavage product.

6. (**Withdrawn**) The method of claim 5, wherein the protease cleavage product is an N-terminal fragment of the GPCR.

7. (**Withdrawn**) The method of claim 5, wherein the protease cleavage product is an C-terminal fragment of the GPCR.

8. (**Withdrawn**) (**Previously Presented**) The method of claim 4, wherein the detectable probe comprises two protease cleavage sites within the third intracellular domain of the GPCR, the cleavage sites flanking an epitope tag, wherein a conformational change due to agonist activity changes the accessibility of the protease cleavage site to protease cleavage, and the detectable signal is a polypeptide of the epitope tag released by protease cleavage of the two cleavage sites.

9. (**Original**) The method of claim 1, wherein the GPCR is immobilized by attachment to a support.

10. (**Original**) The method of claim 9, wherein the GPCR is attached to the support by binding of an N-terminal portion to the support.

11. (**Original**) The method of claim 9, wherein the GPCR is attached to the support by binding of an C-terminal portion to the support.

12. (**Original**) The method of claim 1, wherein the GPCR is in a membrane.

13. (**Withdrawn**) The method of claim 5, wherein the GPCR is expressed in a eukaryotic host cell.

14. – 19. (**Canceled**)

20. (**Previously Presented**) A method for identifying a ligand for a G protein-coupled receptor (GPCR), the method comprising:

contacting a plurality of G protein-coupled receptors (GPCRs) with a candidate agent, the GPCRs having a conformationally sensitive detectable probe positioned on or within a conformationally sensitive third intracellular domain, wherein the GPCRs are provided on an array at assigned coordinates; and

detecting a detectable signal of the conformationally sensitive detectable probe;

wherein detection of a change in the detectable signal at a coordinate on the array in the presence of the candidate agent as compared to the absence of the candidate agent indicates the candidate agent is a ligand for the GPCR at the coordinate on the array.

21. (**Currently Amended**) The method of claim 20, wherein the detectable **probe** ~~label~~ is a fluorescent probe.

22. (**Previously Presented**) The method of claim 20, wherein the GPCR is immobilized by attachment to a support.

23. (**Previously Presented**) The method of claim 20, wherein the GPCR is in a membrane.

24. (**New**) The method of claim 20, wherein the detectable probe is a protease cleavage site.